Arguments

Statements: A statement is something that can be true or false.

Examples of statements:
‘All governors are rich.’
‘Bieber is a governor.’

Examples of things that are not statements:
My phone
The Moon

Arguments: An argument is a collection of statements, some of which are intended to provide support or evidence for one of the others.

Sample Arguments:

(1) All governors are rich.
(2) Bieber is a governor.
(3) So, Bieber is rich.

(1) Some governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

(1) All governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

Premises: The premises of an argument are those statements in the argument that are intended to provide the support or evidence.

Conclusion: The conclusion of an argument is that statement for which the premises are meant to provide support.

Validity: An argument is valid if and only if it has a form that would make it impossible for the premises to be true and the conclusion to be false.

To test whether an argument is valid:

First, imagine that the premises are true (even if they are not).

Then ask yourself, without appealing to any other knowledge you have, whether you could still imagine the conclusion being false.

If you can, the argument is not valid.

If you cannot, then the argument is valid.

Validity has nothing to do with the actual truth or falsity of the premises. A valid argument can have false premises.

(1) All governors are rich.
(2) Bieber is a governor.
(3) So, Bieber is rich.

(1) All governors are rich.
(2) Bieber is a governor.
(3) So, Bieber is rich.

Valid.

(1) Some governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

(1) Some governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

Not valid.

(1) All governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

(1) All governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

Valid.

Factual Correctness: An argument is factually correct if and only if its premises are true.

(1) All governors are rich.
(2) Bieber is a governor.
(3) So, Bieber is rich.

(1) All governors are rich.
(2) Bieber is a governor.
(3) So, Bieber is rich.

Not factually correct.

(1) Some governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

(1) Some governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

Factually correct.

(1) All governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

(1) All governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

Factually correct.

Soundness: An argument is sound if and only if that argument is both Factually Correct and Valid.

(1) All governors are rich.
(2) Bieber is a governor.
(3) So, Bieber is rich.

Sound?

(1) Some governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

Sound?

(1) All governors are rich.
(2) Kelly is a governor.
(3) So, Kelly is rich.

Sound?

To find the form of an argument, look for *operators* and *basic statements*.

Operator: Takes other statements and turns them into a new statement.

Basic Statement: Statement without any operators in it.

Some operators:

If…, then….

Not…

Modus Ponens

(1) If Scott sees blue, then the sky is blue.
(2) Scott sees blue.
(3) So, the sky is blue.

Basic Statements:

'Scott sees blue.'

'The sky is blue.'

Operator:

If…, then…

Argument Form:

(1) If P, then Q

(2) P

(3) So, Q

This argument form is *Modus Ponens*. It is valid.

Don’t confuse with Modus Ponens!!!!

(1) If Scott sees blue, then the sky is blue.
(2) The sky is blue.
(3) So, Scott sees blue.

Form:

(1) If P, then Q

(2) Q

(3) So, P

Modus Tollens

(1) If Scott sees blue, then the sky is blue.
(2) It is not the case that the sky is blue.
(3) So, it is not the case that Scott sees blue.

Basic Statements: Same as previous arguments.

Operators:

If…, then…

Not…

Argument Form:

(1) If P, then Q

(2) Not: Q

(3) So, Not: P

This argument form is *Modus Tollens*. It is valid.

Don’t Confuse with Modus Tollens!!!

(1) If Scott sees blue, then the sky is blue.
(2) It is not the case that Scott sees blue.
(3) So, it is not the case that the sky is blue.

Argument form:

(1) If P, then Q
(2) Not: P
(3) So, Not: Q

This argument form is *not valid*.